Elektronische Bauelemente

S2N7002KDW

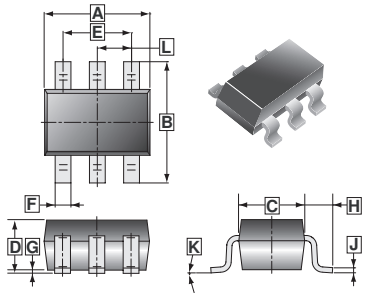
115mA, 60V
Dual N-Channel MOSFET

RoHS Compliant Product
A Suffix of "-C" specifies halogen & lead-free

FEATURES

- Low On-Resistance
- Fast Switching Speed
- Low-Voltage Drive
- Easily Designed Drive Circuits
- ESD Protected: 2KV

SOT-363



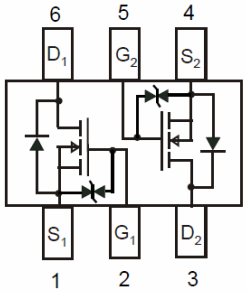
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.80	2.20	G	0.100 REF.	
B	1.80	2.45	H	0.525 REF.	
C	1.15	1.35	J	0.08	0.25
D	0.80	1.10	K	8°	
E	1.10	1.50	L	0.650 TYP.	
F	0.10	0.35			

MARKING

RS

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-363	3K	7 inch



ORDER INFORMATION

Part Number	Type
S2N7002KDW	Lead (Pb)-free
S2N7002KDW-C	Lead (Pb)-free and Halogen-free

MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	±20	V
Continuous Drain Current	I_D	115	mA
Pulsed Drain Current [1]	I_{DP}	800	mA
Continuous Reverse Drain Current	I_{DR}	115	mA
Pulsed Reverse Drain Current [1]	I_{DRP}	800	mA
Total Power Dissipation [2]	P_D	225	mW
Operating Junction & Storage Temperature Range	T_J, T_{STG}	-55~150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	60	-	-	V	V_{GS}=0, I_D=10μA
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	μA	V_{DS}=60V, V_{GS}=0
Gate-Source Leakage	I_{GSS}	-	-	±10	μA	V_{DS}=0, V_{GS}= ±20V
Gate Threshold Voltage	$V_{GS(th)}$	1	1.85	2.5	V	V_{DS}=10V, I_D=1mA
Static Drain-Source On-Resistance	$R_{DS(ON)}$	-	-	7.5	Ω	V_{GS}=10V, I_D=0.5A
		-	-	8.5		V_{GS}=4.5V, I_D=0.2A
Forward Transfer Admittance [3]	g_{fs}	-	80	-	mS	V_{DS}=10V, I_D=0.2A
Turn-on Delay Time [3]	$T_{d(on)}$	-	12	-	nS	I_D=0.2A, V_{DD}=30V V_{GS}=10V, R_L=103Ω R_G=6Ω
Turn-on Rise Time [3]	$T_{r(on)}$	-	14	-		
Turn-off Delay Time [3]	$T_{d(off)}$	-	20	-		
Turn-off Fall Time [3]	$T_{r(off)}$	-	22	-		
Input Capacitance	C_{iss}	-	25	-	pF	V_{DS}=25V V_{GS}=0 f=1MHz
Output Capacitance	C_{oss}	-	10	-		
Reverse Transfer Capacitance	C_{rss}	-	3	-		

Notes:
1. Pw≦10μs, Duty cycle≦1%.
2. When mounted on a 1x0.75x0.062 inch glass epoxy board.
3. Pw≦300μs, Duty cycle≦1%.

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CHARACTERISTIC CURVES

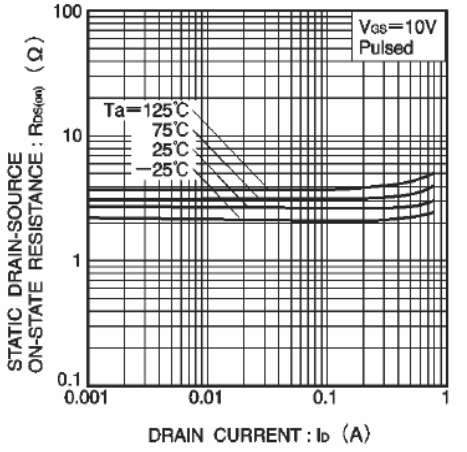

Fig. 1 Static drain-source on-state resistance vs. drain current (Ⅰ)

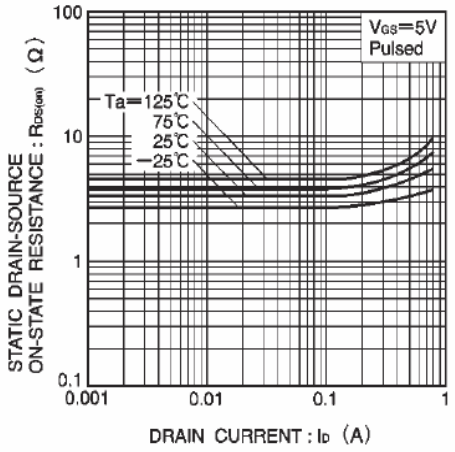

Fig. 2 Static drain-source on-state resistance vs. drain current (Ⅱ)

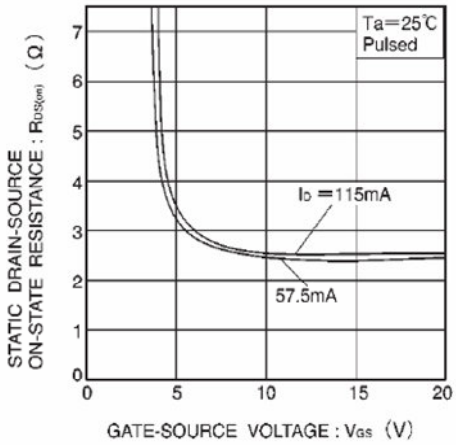

Fig. 3 Static drain-source on-state resistance vs. gate-source voltage

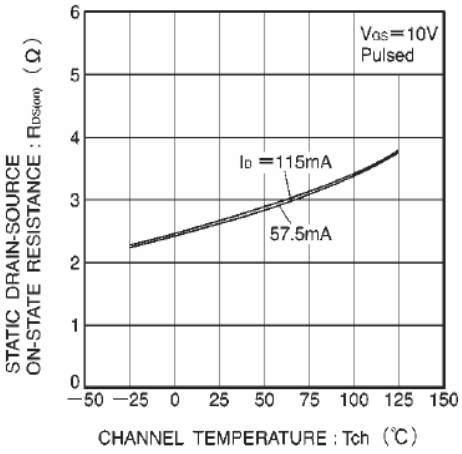

Fig. 4 Static drain-source on-state resistance vs. channel temperature

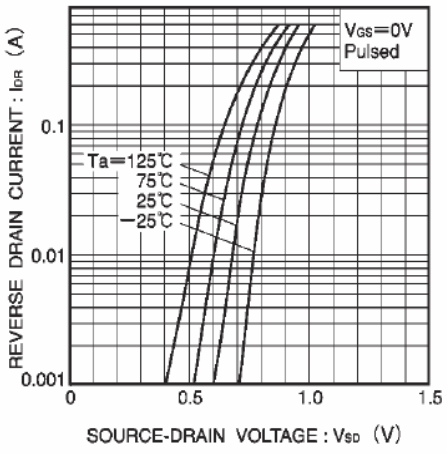

Fig.5 Reverse drain current vs. source-drain voltage (Ⅰ)

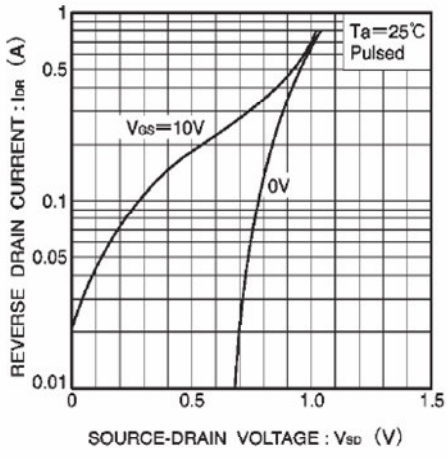

Fig.6 Reverse drain current vs. source-drain voltage (Ⅱ)

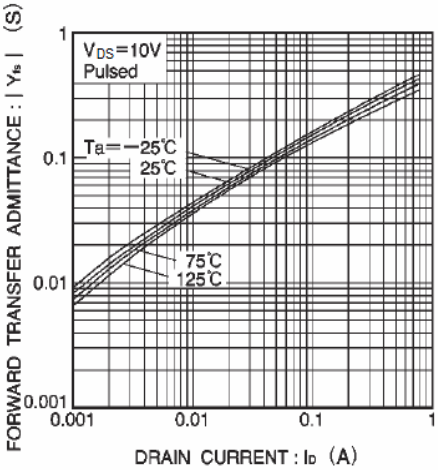

Fig. 7 Forward transfer admittance vs. drain current

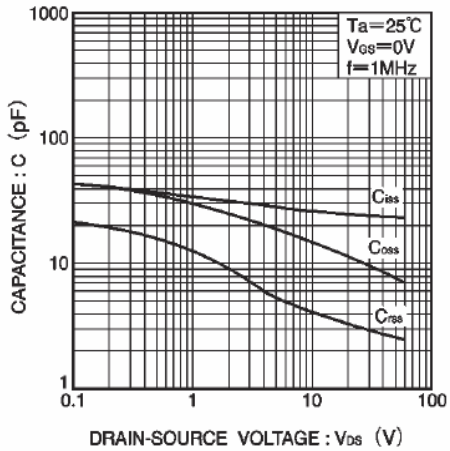

Fig. 8 Typical capacitance vs. drain-source voltage

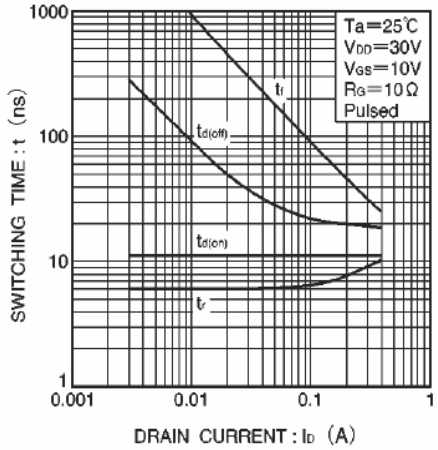

Fig. 9 Switching characteristics